

CLAIMS

1. A sorting device for sorting granules, objects or the like (9) within a bulk of such objects (9), where the objects (9) differ in quality, which sorting device comprises positioning means giving a well-separated position for each granule, object or the like (9), detecting means, at least one source (10) of electromagnetic radiation or sonic waves, ejecting means and receiving means, **characterized** in that the positioning means is a cylinder (1) having a number of pockets (3) placed in rows along the inner circumference of the cylinder (1) and that the cylinder (1) is rotated with such a high speed that the granules or the like (9) are positioned and held in the pockets (3) for a time sufficient for detection and ejection.

2. The sorting device of claim 1 **characterized** in that the granules or the like (9) are positioned and held in the pockets by means of centrifugal force at the top of the turn of the cylinder (1).

3. The sorting device of claim 2 or 3, **characterized** in that one detecting means is placed for co-operation with each row and that the detecting means contains one or more detectors (5) for emitted, transmitted and/or reflected light or radiation or sonic waves, a CCD-camera(s), a diode array(s) or a photocell(s) and that the detecting means comprises at least one source of electromagnetic radiation and/ or sound.

4. The sorting device of claim 3, **characterized** in that the source of electromagnetic radiation is a at least one light emitting diode.

5. The sorting device of claim 3 or 4, **characterized** in that the detecting means is arranged for co-operation with several rows of pockets (3) by means of fiber optic cables (12), filters and/or that a lens is placed at the end of each fiber optic cable (12).

6. The sorting device of any of the previous claims, **characterized** in that the ejecting means is at least one ejector (6) placed in connection with each row of pockets and for co-operation with the detecting means and that a
5 source of compressed air is connected to at least one ejector by means of one or more single way valves or multi way valves; that the ejecting means has the form of flaps opening to the outside of a cylinder (1) or the like; that the ejecting means has the form of at least two parts of the
10 positioning means moving away from each other; or that the ejecting means has the form of a rod.

7. The sorting device of any of the previous claims, **characterized** in that at least one receiving means (7) is placed to receive the objects (9) or the like being ejected
15 by the ejecting means (6); that at least one receiving means is placed to receive the objects (9) by means of gravity; and/or that the receiving means (7) are troughs (13) having a conveying mechanism at the bottom leading to a receptacle.

20 8. The sorting device of any of the previous claims, **characterized** in that an opening (4) is furnished in the bottom of each pocket (3), which opening (4) is small enough not to let the granules or the like (9) through; and/or that each pocket (3) is adapted to capture and hold
25 the granule or the like (9) and has a form in the area of the opening (4) that facilitates that the object is positioned to fully cover the opening (4).

9. The sorting device of any of the previous claims, **characterized** in that it further includes a timer, used to
30 control the position of each pocket (3) and/or object (9) in relation to the detecting and ejecting means; and/or that the detecting means and ejecting means are connected to a micro controller unit, MCU.

10. The sorting device of claim 9, **characterized** in
35 that an A/D converter is placed between each detecting

means and the MCU and that the MCU includes at least a processor, an EEPROM and I/O units.

11. The sorting device of any of the claims 1 to 9, **characterized** in that each detecting means is placed in
5 close proximity to an ejecting means (6).

12. Method for sorting granules, grains etc. into different fractions, **characterized** in that the granules are separated in such a way that each single granule passes a detecting means in a well-separated position, that at least
10 subgroup of the granules is actively ejected into a receiving means in accordance with detected properties, and that centrifugal forces are used in connection to positioning and holding of the objects (9) in the well-separated positions when passing the detecting and ejecting means.

13. The method of claim 12, **characterized** in that the
15 granules etc. are divided into two or more subgroups depending on detected qualities of each single granule etc.